

## PATENT APPLICATION

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the application of:

Attorney Docket No.: 2950.27US01

Buckley et al.

Application No.: 09/435,748

Examiner: M. Ruthkosky

Filed: November 8, 1999

Group Art Unit: 1745

For: BATTERIES WITH THIN ELECTRODES

AMENDMENT AFTER FINAL

Box AF  
Assistant Commissioner for Patents  
Washington, D.C. 20231

Sir:

In response to the Office Action of March 26, 2002, amendment to the above-identified patent application is requested.

In the Claims

Please cancel claims 55-57 without prejudice or disclaimer.

REMARKS

Claims 29-44 and 52-54 are pending. By this Amendment, claims 55-57 are canceled without prejudice.

All of the pending claims stand rejected. Applicants respectfully request reconsideration of the rejections based on the following comments.

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Restriction/Election

The Examiner maintained the restriction with respect to claims 55-57. The Examiner's response to Applicants' traversal **only** commented on the distinctions of the inventions. However, the MPEP clearly indicates that the search effort for the additional claims is a separate and mandatory consideration. The Examiner did not establish a prima facie case that significant additional effort would be required to examine the claims. Nevertheless, to advance prosecution of the case, Applicants have canceled claims 55-57 without prejudice or disclaimer.

Rejection Under 35 U.S.C. § 112, Second Paragraph

The Examiner rejected claims 29-44 and 52-54 under 35 U.S.C. § 112, second paragraph, as being indefinite. In particular, the Examiner raised issues regarding the terms "less than about" and "derivatives." Applicants maintain that the Examiner has failed to raise prima facie issues of indefiniteness. Applicants incorporate by reference arguments from the Amendment of October 15, 2001 such that the arguments do not need to be repeated. Applicants focus here on the arguments presented by the Examiner in the Office Action of March 26, 2002. Applicants respectfully request reconsideration of the indefiniteness rejections based on the following comments.

With all due respect, the Examiner has incorrectly cited the MPEP with respect to the term "about." Specifically, the Examiner implies that the MPEP mandates that the phrase "less than about" is indefinite. As noted in the MPEP section 2173.05(b), the phrase "exceeding about 10% per second" is definite in appropriate circumstances. See, W.L. Gore & Associates, Inc. v. Garlock, Inc., 220 USPQ 303 (Fed. Cir. 1983). Furthermore, the term "at least about" was only held indefinite under the circumstances in which there was close prior art **and** there was nothing in the specification, prosecution history or the prior art to provide any indication with

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respect to the range of specific activity. Amgen Inc. v. Chugi Pharmaceutical Co. Ltd., 18 USPQ2d 1016 (Fed. Cir. 1991).

The Federal Circuit in Amgen explicitly indicated that the term "about" does not lead to indefiniteness in all circumstances. "In arriving at our conclusion, we caution that our holding that the term 'about' renders claims 4 and 6 indefinite should not be understood as ruling out any and all uses of this term in patent claims. It may be acceptable in appropriate fact situations, ..., even though it is not here." Id., at 1031 (citation to W.L. Gore & Assocs., Inc. v. Garlock, Inc. omitted).

More recent Federal Circuit cases have consistently allowed non-quantitative claim language as being definite where the fact situations have been different from the facts situation in Amgen. For example, the Federal Circuit found that the phrase "to increase substantially" was not indefinite since the term did not "introduce any insoluble ambiguity into the claims." Exxon Research And Engineering Co. v. U.S., 60 USPQ2d 1272, 1278 (Fed. Cir. 2001). Similarly, the phrase "relatively small" did not render a corresponding set of claims indefinite. "However, as we discussed *ante*, technical terms are not *per se* indefinite when expressed in qualitative terms without numerical limits." Modine Manufacturing Co. v. International Trade Commission, 37 USPQ2d 1609, 1617 (Fed. Cir. 1996). Since there was no close prior art, "[i]t was evident from the prosecution history that the patentability of claims 9 and 10 did not require an exact numerical limit of the hydraulic cylinder." Id.

With respect to the present claims, there is no close anticipatory prior art. Applicants believe that the boundaries of the claim are clear to a person of ordinary skill in the art. Thus, Applicants believe that the Examiner has failed to assert a prima facie case of indefiniteness.

With respect to claims 36 and 38, the Examiner asserts that the word "derivative" renders these claims indefinite. Specifically, the Examiner asserts that "[t]he identity of the

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derivatives of the electrode material are unclear and include elements not actually disclosed. Thus, the scope of the claim(s) are unascertainable." Office Action at page 3. The Examiner, however, fails to connect the two concepts in the above quotation. Applicants believe that all the elements do not have to be explicitly disclosed to make the scope of the claim ascertainable. The issue is whether a potential infringer can evaluate the claim scope.

"We have stated the standard for assessing whether a patent claim is sufficiently definite to satisfy the statutory requirement as follows: If one skilled in the art would understand the bounds of the claim when read in light of the specification, then the claim satisfies section 112 paragraph 2." Exxon Research and Engineering Co., 60 USPQ2d at 1276.

The Examiner does not seem to dispute that a person of ordinary skill in the art can ascertain whether a particular compound would be a "derivative" within the claim language. The law requires no more. When genus terms are used in a claim, the specification generally does not list all of the species. For example, the genus halogen substituted alkanes would include virtually countless species, although its scope is quite clear and there is no reason to list all of the species individually. As stated in MPEP 2173.04, "Breadth of a claim is not to be equated with indefiniteness."

Applicants maintain that the claims are definite. Applicants respectfully request withdrawal of the rejection of claims 29-44 and 52-54 under 35 U.S.C. § 112, second paragraph, as being indefinite.

#### Rejections Under 35 U.S.C. § 103

The Examiner rejected claims 29-44 and 52-54 under 35 U.S.C. § 103(a) as being unpatentable over the Oak Ridge National Laboratory Bulletin, 9/1/1998 (the Oak Ridge Bulletin) in view of U.S. Patent 5,482,797 to Yamata et al. (the Yamata patent). The Examiner has responded specifically to points presented by Applicants. Applicants believe that the Examiner has made factual errors, which are discussed below. Thus, the Examiner has failed to

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establish prima facie obviousness of Applicants' claimed invention. Applicants incorporate their previous arguments from the Amendment of October 15, 2001 by reference such that these do not need to be repeated. Applicants focus here on the Examiner's response to these arguments. Applicants respectfully request reconsideration of the rejections based on the following comments.

There seems to be some misunderstandings regarding the nature of thin films, sputtering, particles and laser pyrolysis. Sputtering produces reactive radicals in vapor that coalesce on a surface as a solid phase material, not as particles. The Examiner stated on page 5 of the Office Action that "[t]hese thing [sic, thin] films are made up of individual particles formed by a sputtering process." And "[t]he vapor forms individual particles of molecular size which form the film." These statements are incorrect. The film is a solid-state material with no identifiable molecules or particles. The material in the film generally has a specific composition or stoichiometry, but it forms a continuous solid material without boundaries that can separate the structure. The solid-state nature of films formed by sputtering is well known. See, for example, U.S. Patent 4,297,392 entitled "High Frequency Sputtering Produces Thin Film Amorphous Silicon Photoconductor" and U.S. Patent 5,597,458 "Method For Producing Alloy Films Using Cold Sputter Deposition Process."

The Examiner further states that "[s]uch a process [i.e., sputtering] is very similar to the laser pyrolysis described in the instant application." This is similarly incorrect. As described in the specification at, for example, page 36, line 1 to page 38, line 25, the particles are separately identifiable and dispersible. The character of the particles can be seen in transmission electron micrographs in commonly assigned patents 6,106,798, 6,136,287; 6,200,674 and 6,225,007. However, a high temperature heat treatment would be needed to consolidate a powder formed from the particles into a uniform solid material, similar to materials formed by

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sputtering, chemical vapor deposition or physical vapor deposition. Thus, the particle production technique described in the present application is not similar to sputtering or vapor deposition.

Since the Examiner's assumptions that the laser pyrolysis approach is similar to sputtering are incorrect, the Examiner's conclusions regarding particle formation by sputtering are similarly incorrect. Since the Oak Ridge Bulletin does not relate to particles within a battery, the Examiner's obviousness analysis does not follow. As noted in the Amendment of October 15, 2001, the Yamada patent does not provide teaching, suggestion or motivation that the particle size can be relevant for structural features of a battery. Therefore, the Yamada patent does not come close to making up for the deficiencies of the Oak Ridge Bulletin with respect to Applicants' claimed invention. Thus, the Examiner has failed to establish prima facie obviousness, and the combined disclosures of the Oak Ridge Bulletin and the Yamada patent do not render Applicants' claimed invention obvious.

Applicants respectfully request withdrawal of the rejection of claims 29-44 and 52-54 under 35 U.S.C. § 103(a) as being unpatentable over the Oak Ridge Bulletin in view of the Yamada patent.

#### CONCLUSIONS

In view of the foregoing, it is submitted that this application is in condition for allowance. Favorable consideration and prompt allowance of the application are respectfully requested.

The Examiner is invited to telephone the undersigned if the Examiner believes it would be useful to advance prosecution.

Respectfully submitted,



Peter S. Dardi, Ph.D.  
Registration No. 39,650

Application No. 09/435,748

Customer No. 24113  
Patterson, Thuent, Skaar & Christensen, P.A.  
4800 IDS Center  
80 South 8th Street  
Minneapolis, Minnesota 55402-2100  
Telephone: (612) 349-5746

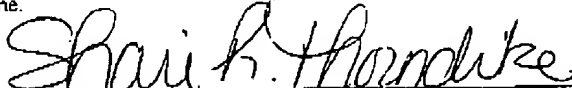
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May 10, 2002

Date

  
Shari R. Thorndike

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ATTACHMENT  
MARKED-UP AMENDMENT

Claims As Amended

Claims 55-57 have been canceled.



PATTERSON, THUENTE, SKAAR & CHRISTENSEN, P.A.  
4800 IDS Center, 80 South Eighth Street  
Minneapolis, Minnesota 55402-2100 USA

## FACSIMILE COVER SHEET

TELEPHONE: (612) 349-5740

TOLL FREE: 1-800 331-4537

FACSIMILE: (612) 349-9266

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DATE: May 10, 2002

TO: Examiner Mark Ruthkosky  
Group Art Unit: 1745

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Application No.: 09/435,748  
Applicant: BUCKLEY et al.  
Due Date: May 26, 2002

OUR REF.: 2950.27US01

**OFFICIAL**

FROM: Peter S. Dardi, Ph.D.  
PHONE #: (612) 349-5746

Attached please find the following document for filing in the above-identified patent application:

- 1) Amendment After Final in response to Final Office Action dated March 26, 2002.

Sincerely,

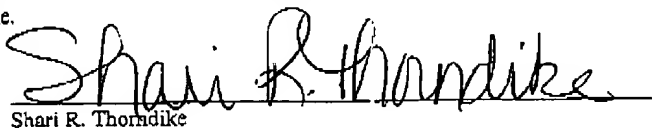


Peter S. Dardi, Ph.D.  
Reg. No. 39,650

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Shari R. Thorndike

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